,WHAT IS CLAIMED IS:

1. A kit for imparting a pre-determined color to a substrate, comprising:

(a) an aqueous solution of a mineral salt, and

(b) an aqueous solution of a peroxide,

the mineral salt and peroxide solutions being capable, when applied sequentially in effective amounts to the substrate, of reacting with each other in the presence of the substrate to impart the color to the substrate.

2. A method for treating a substrate comprising the steps of:

(a) contacting a substrate with a formulation comprising a metal salt, and allowing an effective amount of the formulation to penetrate the substrate, and sequentially but without regard to order,

(b) contacting the substrate with a formulation comprising an oxygen source, and allowing an effective amount of the formulation to penetrate the substrate,

such that the two formulations react with each other in contact with the substrate to impart a stable change to the characteristics of the substrate.

3. The method of claim 2, wherein the oxygen source is a peroxide and both formulations are aqueous solutions.

4. The method of claim 2, wherein the metal salt is selected from the group consisting of salts of iron, silver, zinc, cerium, copper, magnesium, molybdenum, nickel, tin, chromium, aluminum, barium, calcium, sodium, potassium, and titanium, and combinations.

5. The method of claim 2, wherein the metal salt is selected from the group consisting of salts of aluminum, antimony, beryllium, bismuth, cadmium, chromium, cobalt, copper, gold, iridium, lead, magnesium, manganese, mercury, molybdenum, nickel, niobium, osmium, platinum, plutonium, potassium, rhodium, selenium, silicon, silver, sodium, tantalum, thorium, tin, titanium, tungsten, uranium, vanadium, and zinc, and combinations.

6. The method of claim 2, wherein the metal salt is selected from the group consisting of sulfates, chlorides, perchlorates, acetates, nitrates, permanganates, thiosulfates, and oxides, and combinations.

7. The method of claim 2, wherein the metal salt is selected from the group consisting of silver sulfate, silver perchlorate, silver nitrate, silver sulfate, iron (II) chloride, zinc perchlorate, iron (II) perchlorate, iron (II) sulfate, copper acetate, sodium thiosulfate, magnesium thiosulfate, potassium thiosulfate, potassium nitrate, potassium permanganate, copper nitrate, copper II carbonate dihydroxide, copper sulfate, titanium III sulfate, magnesium nitrate, cerium (III) perchlorate, and cerium nitrate, and combinations.

8. The method of claim 2, wherein the metal salt is selected from the group consisting of molybdenum (VI) oxide, zinc sulfate, copper (II) chloride, nickel perchlorate, nickel sulfate, copper (II) perchlorate, tin (II) sulfate, tin (I) chloride, chromium (III) sulfate, aluminum sulfate, cerium (III) perchlorate, zinc peroxide, titanium hydride, chromium (III) perchlorate, zinc powder, manganese (II) chloride, aluminum chloride, titanium (IV) chloride, silver chloride, and titanium (II) sulfate, and combinations.

9. The method of claim 2, wherein the oxygen source is a peroxide.

10. The method of claim 2, wherein the oxygen source is selected from the group consisting of hydrogen peroxide, sodium peroxide, zinc peroxide, calcium peroxide, barium peroxide, and lithium peroxide, and combinations.

11. The method of claim 2, wherein the substrate is wood.

12. The method of claim 2, wherein the substrate is a wood-like product.

13. The method of claim 2, wherein the substrate is selected from the group consisting of cotton, hemp, flax, paper, and other cellulose products.

14. The method of claim 2, wherein the substrate is leather.

15. The method of claim 2, wherein the substrate is selected from the group consisting of porous plastic, clay, ceramic, cement, concrete, stone, brick, and masonry.

16. The method of claim 2, wherein the substrate is a fabric.

17. The method of claim 2, wherein the effect imparted to the substrate is a color.

18. The method of claim 2, wherein step (a) is performed before step (b).

19. The method of claim 2, wherein step (b) is performed before step (a).

20. The method of claim 2, further comprising the step of drying the substrate between the two steps.

21. The method of claim 2, wherein the preparations are aqueous solutions and are applied between the freezing point and boiling point of the solutions under the process conditions of the method.

22. The method of claim 2, further comprising applying a sealing coat over the substrate surface.

23. An article comprising a substrate produced by the method of claim 2.

24. An article according to claim 23, wherein the changed characteristic is a color.

25. An article comprising a compound imparting a fixed physical characteristic, the compound being produced by a chemical reaction occurring in contact with the article between a metal salt and a peroxide when the metal salt and the peroxide are applied sequentially to the article.

26. An article according to claim 25, wherein the fixed physical characteristic is a color.

27. An article according to claim 25, whose composition is selected from the group consisting of bamboo, rattan, paper, cardboard, leather, clay, cotton, wool, other cloth, hemp, flax, recycled cellulose products, brick, concrete, flagstone, tile, cement, and other masonry.

28. An article according to claim 25, whose composition is wood.

29. An article according to claim 26, wherein the article is a sustainably harvested wood, the fixed color is an earth tone, the metal salt has low toxicity, and the article is essentially free of residue of the oxygen source.

30. A kit for treating a substrate, comprising

(a) a metal salt preparation, and

(b) an oxygen source preparation,

the preparations being adapted to penetrate the substrate when applied, and both preparations, when applied sequentially in effective amounts, being adapted to react with each other to impart a fixed physical characteristic to the substrate.

31. The kit of claim 30, wherein the metal salt preparation and/or the oxygen source preparation further comprises an additive selected from the group consisting of thickener, alcohol, emulsifier, coloring agent, pigment, dye, bleach, sealer, finishing agent, tint, acrylic finish, latex finish, polyurethane, alcohol, gelling agent, tabletting agent, surfactant, buffer, citric acid, tannic acid, acetic acid, other acid, base, color, salt, stabilizer, antimicrobial, antifungal, insecticide, insect repellant, ultraviolet protectant, and fire retardant, and combinations.

32. The kit of claim 30, wherein the metal salt preparation is an aqueous solution comprising between about 0.001% and about 20% (w/v) metal salt.

33. The kit of claim 30, wherein the oxygen source preparation is an aqueous solution comprising between about 0.1% and about 50% (w/v) peroxide.

34. The kit of claim 30, wherein the metal salt preparation is an aqueous solution comprising between about 0.025% and about 8% (w/v) metal salt.

35. The kit of claim 30, wherein the oxygen source preparation is an aqueous solution comprising between about 0.3% and about 15% peroxide.

36. The kit of claim 30, wherein the preparations are concentrates suitable for dilution by a user.